

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
AUSTIN DIVISION**

**RADIANT VISION SYSTEMS, LLC,**  
*Plaintiff/Counterclaim*  
*Defendant,*

**v.**

**ADMESY B.V.,**  
*Defendant/Counterclaim*  
*Plaintiff.*

**Civil Action No.:**

**1:21-cv-01115-DAE**

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**DEFENDANT ADMESY B.V.'S OPENING CLAIM CONSTRUCTION BRIEF**

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**CLAIM TERMS IN DISPUTE**

<b>Patent</b>	<b>Claim Term</b>	<b>Radiant's Proposed Construction</b>	<b>Admesy's Proposed Construction</b>
'652	"filter assembly"	Plain and ordinary meaning, no construction necessary.	"a unit consisting of component parts, including at least one filter, that have been fitted together"
'652	"filter wheel"	Plain and ordinary meaning, no construction necessary.	"a frame or disk in the form of a circle configured to hold a filter"

**AGREED CONSTRUCTIONS**

<b>Patent</b>	<b>Claim Term</b>	<b>Agreed Constructions</b>
'652	"reflector"	"a surface capable of reflecting light"
'652	"optical input"	"a structure that gathers light and directs it to another location"
'652	"continuous surface mirror"	"a mirror with a non-segmented surface"

**EXHIBITS**

- "Ex. \_\_" refers to the exhibits attached to this Opening Claim Construction Brief.
- "Ex. B" is the prosecution file history of the '652 Patent. References to the page numbers of Ex. B are to the page numbers of the PDF, which should ultimately correspond to the page numbers in the docketed exhibit.
- References to patent columns and lines are signified by the following shorthand: [Column No.] : [Line No.], *e.g.*, Column 1, line 1-5 is shown as Ex. A, 1:1-5.

## I. INTRODUCTION

Plaintiff Radiant Vision Systems, LLC (“Radiant”) presently asserts that certain of Defendant Admesy B.V.’s (“Admesy”) imaging devices infringe 17 claims of U.S. Patent No. 8,482,652 (“the ’652 Patent”). Out of the 17 asserted claims, two claim terms are disputed by the parties and require construction by the Court: “filter assembly” and “filter wheel.”

The term “filter assembly” should be construed as “a unit consisting of component parts, including at least one filter, that have been fitted together.” Admesy’s proposed construction is fully supported by the intrinsic record, including the claim language, the teachings of the specification, and the prior art references disclosed by Radiant during the prosecution of the ’652 Patent. Radiant appears to take issue with Admesy’s proposed construction because it believes a “filter assembly” does not have to include a filter. Radiant’s position would read the term “filter” out of this claim term, rendering the term “filter” in a “filter assembly” meaningless, which is highly disfavored. Radiant’s position would also cut against the entire purpose and advantage of the purported invention, which is to add a reflector to the existing mechanism (*i.e.*, the filter assembly) in conventional imaging devices or colorimeters to enable the use of a spectrometer without having to employ a completely separate optical system. As discussed in detail in the specification, the filter assembly in conventional imaging devices or colorimeters used multiple color filters in order to function as intended. Thus, Admesy’s proposed construction stays true to not only the plain language of this claim term, but also the stated purpose of the claimed invention.

The term “filter wheel” should be construed as “a frame or disk in the form of a circle configured to hold a filter.” Admesy’s proposed construction, once again, is fully supported by the intrinsic record, including the claim language, the specification, and the claim amendments that were made during the prosecution of the ’652 Patent. Radiant appears to take issue with the

requirement that a “filter wheel” be in the form of a circle. This is nonsensical. Radiant chose the term “wheel” to describe and claim this component of their purported invention, and the specification consistently describes and depicts a “filter wheel” in the form of a circle. Moreover, Radiant was required to amend the original claims – which more broadly claimed only a filter assembly – to further require that the filter assembly to include a filter wheel to avoid an anticipatory prior art reference. That reference, known as the Thibault patent, discloses a filter assembly that was not in the form of a circle, but instead shaped like a cube. As such, Radiant should not be permitted to recapture claim scope that was disclaimed during prosecution.

Accordingly, Admesy respectfully requests that the Court adopt its proposed constructions for the two disputed claim terms.

## **II. BACKGROUND**

### **A. Overview of the ’652 Patent.**

The ’652 Patent “relates generally to systems and methods for acquiring optical data and, more particularly, to imaging devices including integral optical components for acquiring optical data to be supplied to a spectrometer.” (Ex. A, ’652 Patent, 1:20-21). The ’652 Patent states:

The present disclosure describes optical pickoffs or reflecting subassemblies positioned within imaging devices for spectrometer measurements and associated methods and systems.

...

The imaging device further includes a filter assembly positioned between the lens and the image sensor, and a reflector or mirror carried by the filter assembly. The filter assembly is configured to move the reflector between first and second positions. In the first position the reflector is at least partially aligned with the optical path and reflects at least a portion of the light to a corresponding light input for a spectrometer.

(*Id.*, 2:56-69; 2:67-3:8).

In discussing the motivation for and purpose of the purported invention of the ’652 Patent, the specification teaches that:

Digital cameras often used a multiple color filter technique to measure the general color distribution of a light source or light reflected from an object. While these measurements are captured relatively quickly, the accuracy of these measurements can be improved by comparing or calibrating the measurements with spectrometer measurements that measure specific regions of the light spectrum very accurately. For example, when using a digital camera (*e.g.*, an imaging colorimeter) to provide absolute scientific color measurements, it is relatively common to compare or calibrate the imaging colorimeter with a spectrometer. However, imaging devices, such as digital cameras including CCD image sensors that use color filters do not generally provide spectral data (power vs. wavelength).

(*Id.*, 3:41-54). The specification further states that “[t]his process of obtaining spectral data is typically accomplished with the spectrometer totally separate from the imaging colorimeter or imaging device, and with a separate optical system for the spectrometer. However, when comparing or calibrating an imaging device, it is advantageous to measure the same area with both instruments.” (*Id.*, 3:61-66).

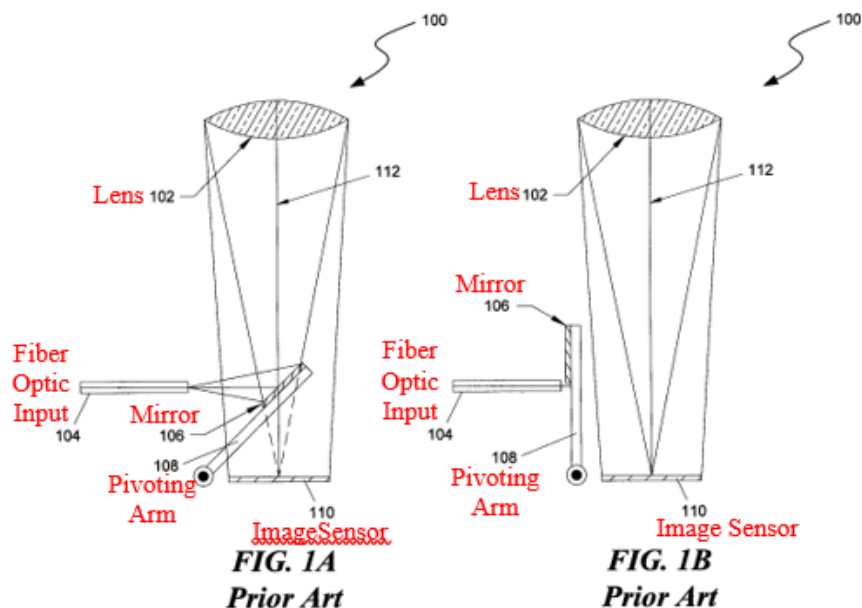
The specification states that a problem existed when attempting to measure the same area with both instruments:

In most cases, there is limited room behind the camera lens to introduce the necessary optics to collect measurements with both the camera imaging device (like a CCD) and the spectrometer sensor.

(*Id.*, 4: 2-6). More specifically, the specification states that a problem existed in the prior art, conventional imaging systems that were used to reflect light to a spectrometer, because there is “limited space between the image lens and the CCD image plane” in the prior art imaging systems and the components in the prior art systems “require a significant portion of the optical path for the placement of the mirrors and/or beam splitters.” (*Id.*, 4:10-18).

The specification provides a number of examples of these prior art, conventional systems that were used to reflect light to a spectrometer. For example, the specification describes a prior art, “conventional system 100,” shown in annotated FIGS. 1A-1B below, in which a mirror 106 is mounted to a pivoting arm 108 to “selectively intercept a light path.” (*Id.*, 1:39:41). When the

pivoting arm 108 is in the position shown in FIG. 1A, the mirror 106 reflects light to an optical fiber input 104 of a spectrometer (not shown). (*Id.*, 1:34-43). When the pivoting arm 108 is moved to the position shown in FIG. 1B, light passing through the lens 102 reaches the image sensor 110. (*Id.*, 1:43-46).

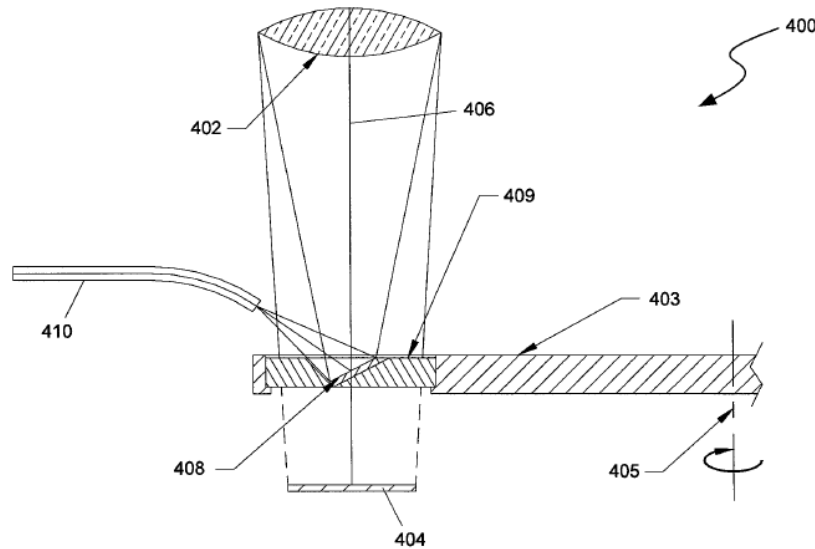


The specification further describes another prior art, “conventional system 200” in which a field lens 202 is used to focus light from the mirror 206 onto the input aperture 105 of the optic input 104. (*See id.*, 2:2-5; Fig. 2). As mentioned above, the specification notes that these prior art, conventional systems shown in Figs. 1A, 1B, and 2 require a significant portion of the optical path for the placement of mirrors. (*Id.*, 4:10-14).

The purported invention of the ’652 Patent claims to solve the problem in these prior art, conventional imaging systems “by adding optical components that use the existing space and mechanisms in the camera between the lens and the image plane.” (*Id.*, 4:6-9). Specifically, as shown in annotated Figure 4 below, which depicts one embodiment of the purported invention of



the '652 Patent, the camera includes a lens assembly 402, an image sensor 404, and a filter wheel 403 carrying one or more filters. (*Id.*, 4:42-46).



**FIG. 4**

The filter wheel 403 that carries one or more filters “rotates about a rotational axis 405 that is generally parallel to the optical path 406.” (*Id.*, 4:46-48). To save space, in the embodiment in Figure 4 “the mirror 408 is positioned in a mirror support 409 that is mounted on the filter wheel 403 in the space typically reserved for a filter. (*Id.*, 4:50-53). The filter wheel 403 “moves the mirror 408 in and out of the optical axis or light path 406” to “direct or otherwise direct at least a portion of the light toward [the] optical fiber input 410.” (*Id.*, 4:53-60). According to the '652 Patent, “[t]his configuration saves space because the mirror 408 is carried by an existing mechanism (e.g., a filter wheel 403) of the camera ....” *Id.*, 4:57-58.

Radiant presently asserts that three different Admesy products infringe 17 claims of the '652 Patent: claims 1-7, 10, 13, 15, 17-20, and 23. Claims 1-7, 10, 13, and 15 are apparatus claims, while claims 18, 19, 20, and 23 are method claims. A representative apparatus claim, claim 1, is reproduced below:

1. An imaging device, comprising:
  - a lens configured to introduce light into the imaging device along an optical path;
  - an image sensor spaced apart from the lens and configured to receive at least a portion of the light along the optical path;
  - a filter assembly positioned between the lens and the image sensor, wherein the filter assembly comprises a filter wheel configured to rotate about a rotational axis that is generally parallel to the optical path; and
  - a reflector carried by the filter assembly, wherein the filter assembly is configured to move the reflector between first and second positions, and wherein in the first position the reflector is at least partially aligned with the optical path and reflects at least a portion of the light toward an input different than the image sensor, and in the second position the reflector is positioned outside of the optical path.

(*Id.*, Claim 1, 8:55-9:5).

## **B. Prosecution History of the '652 Patent**

The application that issued as the '652 Patent was filed on March 26, 2010, claiming priority to a provisional application filed on March 27, 2009. (Ex. B, Prosecution History of the '652 Patent). The prosecution history of the '652 Patent provides relevant guidance on the proper construction of both the term “filter assembly” and “filter wheel.”

The Examiner cited U.S. Patent No. 7,697,060 (“the '060 Patent”) (which shares 3 of the same inventors as the '652 Patent and is assigned to Radiant). (*See* Ex. B, p. 22, Notice of References Cited). As shown in Fig. 1A below, the '060 Patent depicts two filter wheel assemblies 140a and 140b that include a number of components parts that have been fitted together in a single unit, including a body portion 144, a base plate 146, a cover plate 148, fasteners 149, and one or more filters carried by the body portion 144. (*See* Ex. C, '060 Patent, Fig. 1A & 4:60-5:63). Notably, both of the filter wheels in the '060 Patent are depicted as in the form of a circle. (*Id.*).

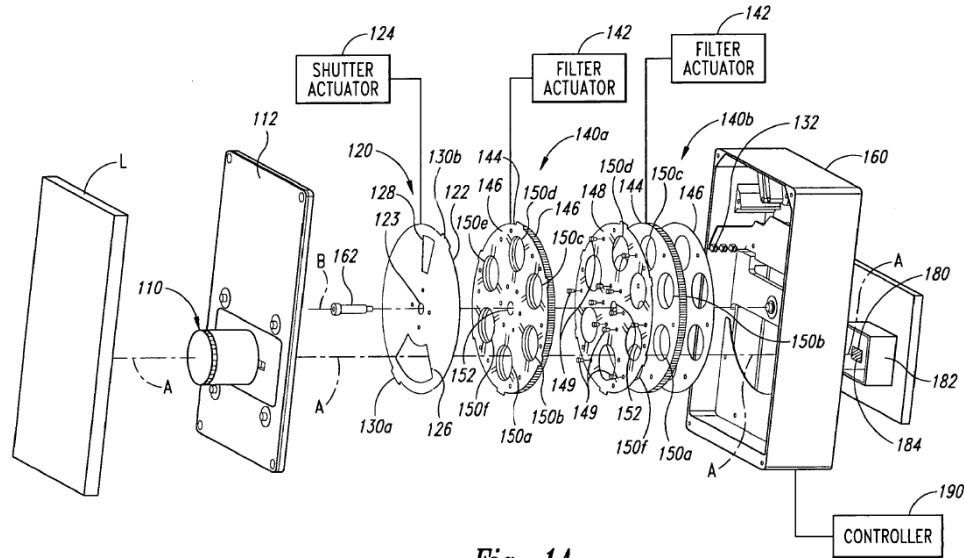


Fig. 1A

The Examiner further cited U.S. Patent Application No. 11/634,884 to Ingram (“Ingram”), which formed the basis, in part, of an obviousness rejection in the Office Action dated July 19, 2012. (*See* Ex. B, pp. 71-74). In discussing the relevant features disclosed in Ingram, the Examiner referenced the structures in Figure 29A and 29B (shown below) – namely, the color filter wheel 2050 (which has three filters 2052, 2054, and 2056 and is shown as circular or in the form of a circle) – as disclosing the “filter wheel” of then pending claim 2. (*See* Ex. D, Ingram, Fig. 29A and 29B and ¶ 005).

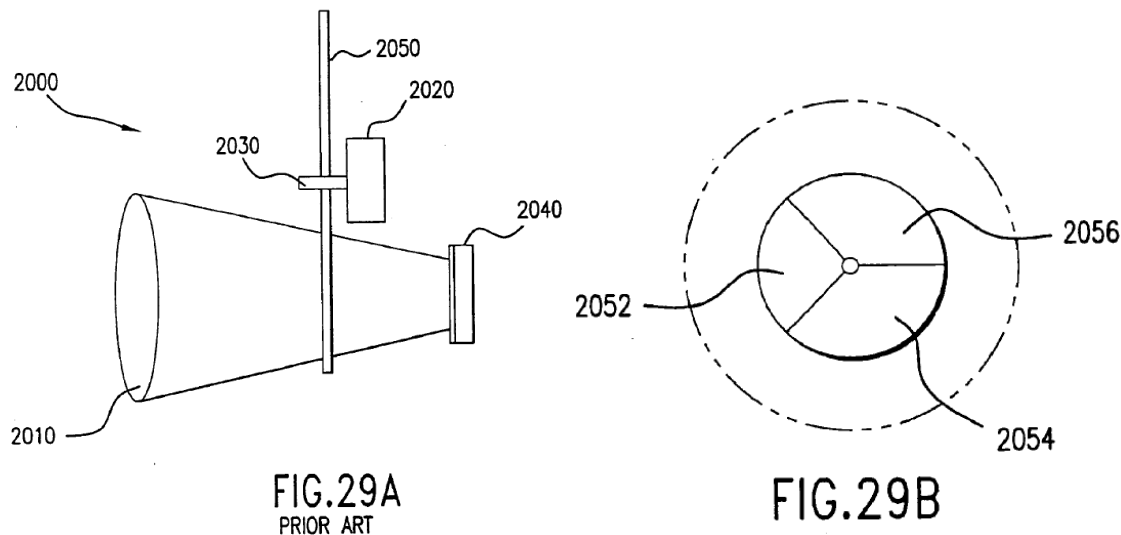
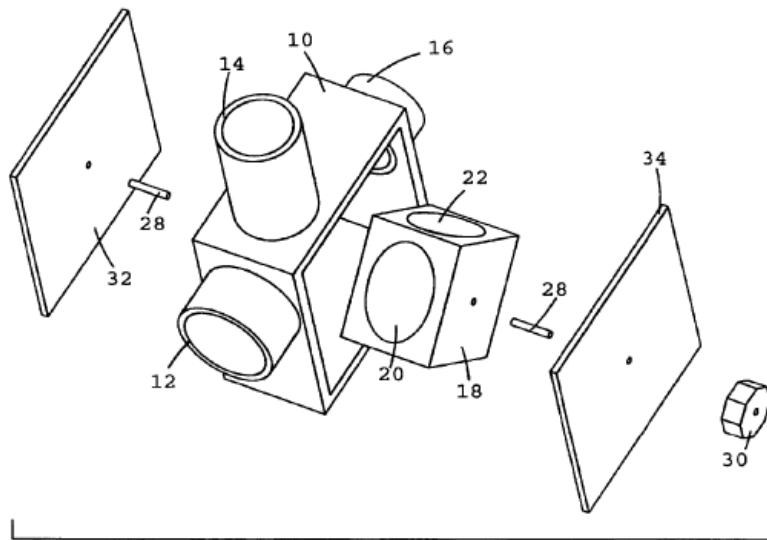
FIG. 29A  
PRIOR ART

FIG. 29B

The Examiner further cited U.S. Patent No. 7,280,735 to Thibault (“Thibault”) in the July 19, 2012 Office Action as an anticipatory reference to then pending claims 1, 8, 11, 20, and 23. (Ex. B, pp. 62-64). At the time, pending claim 1 (as well as pending method claim 20) were drafted broadly to merely recited “a filter assembly positioned between the lens and the image sensor” and “a reflector carried by the filter assembly,” with no further requirement that the filter assembly comprise a filter wheel. (*Id.*, pp. 93, 96). While the Examiner stated in the Office Action that that the “optical routing subassembly 18” of Thibault (which has filters 20 and 22) disclosed “a filter assembly positioned between the lens and the image sensor,” (*id.*, p. 63), it is important to note that the Examiner did not cite the “optical routing subassembly 18” of Thibault as an anticipatory reference for the “filter wheel” limitation of pending claim 2 (or pending method claim 22). In particular, the optical routing assembly 18 was shaped like a cube or box, as shown in Fig.1 of Thibault below, not circular or in the form of a wheel or circle. (*See* Ex. E, Thibault, Fig. 1).



In its response to the Office Action dated January 14, 2013, Radiant cancelled pending claims 1, 14, and 20, and amended/rewrote pending claims 2, 15, 22 to require that the filter assembly include a filter wheel configured to rotate about a rotational axis that is generally parallel

to the optical path. (*See* Ex. B, pp. 42-46, 47). Radiant then argued that pending claims 2 and 22 (issued as claims 1 and 18 in the '652 Patent) were patentable because the cited prior art did not disclose or suggest “an imaging device comprising, *inter alia*, ‘a filter assembly positioned between [a] lens and [an] image sensor’ with ‘a filter wheel configured to rotate about a rotational axis that is generally parallel to [an] optical path[.]’” (*Id.*, pp. 49-50). Similarly, Radiant further argued that then-pending independent claim 15 (issued as claim 13) was allowable because the applied prior art did not disclose “that the digital camera includes, *inter alia*, a filter wheel ... configured to rotate within the body about a rotational axis that is generally parallel with an optical path of the light passing from the lens to the image sensor[.]” (*Id.*, p. 50).

Soon thereafter, Radiant conducted a telephonic interview authorizing the Examiner to enter certain amendments to two of the three independent claims. Radiant authorized pending claim 2 (issued as claim 1) to be amended to recite that, “in the first position[,] the reflector ... reflects at least a portion of the light toward an input different than the image sensor[.]” (*Id.*, pp.18-19). The applicant also authorized pending independent claim 22 (issued as claim 18) to be amended to recite “selectively moving the filter assembly to move ~~align~~ a reflector carried by the filter assembly between a first position and a second position aligned with the optical axis[.]” (*Id.*).

On March 14, 2013, the Examiner issued a Notice of Allowability. (*Id.*, 144). The Examiner stated in the Notice of Allowability that the three independent claims were allowable “based on the Remarks [in Radiant’s January 14, 2013 Office Action Response] and the Examiner’s Amendment.” (*Id.*, p. 20).

### **C. Level of Skill in the Relevant Art**

The non-exhaustive list of factors that may guide the fact finder in determining the appropriate level of skill in the art include: “(1) the educational level of the inventor; (2) type of

problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007) (quoting *Envtl. Designs, Ltd. v. Union Oil Co. of California*, 713 F.2d 693, 696 (Fed. Cir. 1983).

After considering these factors, Admesy contends that a person of ordinary skill in the art (“POSITA”) would have had a bachelor’s degree in mechanical engineering, physics, electrical engineering, or a related field or the equivalent; or at least two years of experience designing optical systems for digital cameras, imaging devices, or the equivalent. This description is approximate, and a higher level of education or specific experience might compensate for less experience and vice-versa.

#### **D. Claim Terms in Dispute and Agreed Constructions**

The two disputed claim terms – “filter assembly” and “filter wheel” – as well as the parties’ proposed constructions, are set forth in the Disputed Claim Terms chart on Page iv, *supra*.

Additionally, the parties met and conferred during the claim construction process and have agreed on proposed constructions for two terms – “reflector,” “optical input,” and “continuous surface mirror” – which are set forth in the Agreed Constructions chart on Page iv, *supra*.

### **III. LEGAL STANDARDS**

Claim construction is a matter of law exclusively within the province of the Court. *See Markman v. Westview Inst., Inc.*, 517 U.S. 370, 372 (1996). The purpose of claim construction is to “elaborat[e] the normally terse claim language in order to understand and explain . . . the scope of the claims.” *Embrex, Inc. v. Serv. Engr. Corp.*, 216 F.3d 1343, 1347 (Fed. Cir. 2000). In *Phillips*, the Federal Circuit, sitting *en banc*, provided direction on claim interpretation. In interpreting claims, the claim terms are typically given the meaning that the term would have to a person of

ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005). The person of ordinary skill is deemed to read the claim terms in the context of the entire patent, including the specification and the file history. *Id.* All disputed claim terms should be construed to be consistent with the specification of which they are a part. *Playtex Prods., Inc. v. Procter & Gamble Co.*, 400 F.3d 901, 906 (Fed. Cir. 2005).

In *Phillips*, the Federal Circuit stated that in performing claim construction, the Court should look first to the intrinsic evidence of the patent, which includes the specification, the file history, and the cited references of the patent. The specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)).

Extrinsic evidence consists of all evidence external to the patent and file history, including expert testimony and dictionaries and treatises that may assist the Court in understanding the technology and determining the accepted meaning of a claim term. *Phillips*, 415 F.3d at 1317-18.

#### IV. ARGUMENT

##### A. Disputed Terms of the '652 Patent

###### 1. “filter assembly”

Claim Term	Radiant’s Proposed Construction	Admesy’s Proposed Construction
“filter assembly”	Plain and ordinary meaning, no construction necessary.	“a unit consisting of component parts, including at least one filter, that have been fitted together”

The term “filter assembly” appears in independent claims 1 and 18, as well as dependent claims 10, 20, and 23. In each of these claims, Admesy asserts that the term “filter assembly” is used to describe “a unit consisting of component parts, including at least one filter, that have been fitted together.” Radiant asserts that no construction is necessary but appears to only take issue

with Admesy’s proposed construction because it contends that a “filter assembly” does not have to include a filter. Because Admesy’s proposed construction is fully supported by the intrinsic record, it should be adopted by the Court.

To begin with, “[i]nventors are masters of their claims, and the words they use to describe and claim their invention are decisive and binding.” *Bio-Rad Labs. v. ITC*, 998 F.3d 1320, 1331 (Fed. Cir. 2021); *see also Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) (“[W]e look to the words of the claims themselves . . . to define the scope of the patented invention.”). Here, Radiant chose to describe and claim the relevant component of its purported invention as a “filter assembly.” If Radiant had wanted to seek patent protection for a broader or more general component, such as “an assembly,” with no reference to a filter, it certainly could have done so. But it chose to describe and claim a “filter assembly” and should be bound by the language of the claims.

Moreover, interpreting the term “filter assembly” in a manner that does not require a “filter” would render the term filter meaningless in this claim term and allow any “assembly” that meets the other limitations of the relevant claims to constitute a “filter assembly.” Such a result is highly disfavored. *See, e.g., Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (“A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.”); *Incom Corp. v. Radiant RFID, LLC*, No. 1:17CV009-LY, 2018 U.S. Dist. LEXIS 167519, at \*27-29 (W.D. Tex. Sept. 28, 2018) (rejecting proposed construction that would read the word “class” out of the term “class list,” and stating that “[i]t is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous.”) (quoting *Wasica Fin. GmbH v. Continental Auto. Sys., Inc.*, 853, F.3d 1272, 1288 n.10 (Fed. Cir. 2017)). As such, Radiant should not be permitted to erase and read the term “filter” out of the term “filter assembly.”



With these two principles in mind and remaining focused on the words of this claim term, it is helpful to turn to the plain meaning of the term “assembly.” The term “assembly,” when used in a patent claim, is commonly defined as a unit consisting of or containing the component parts of a mechanism that have been fitted together. *See, e.g., Electrolysis Prevention Sols. LLC v. Daimler Trucks N. Am. LLC*, No. 3:21cv00171-RJC, 2022 U.S. Dist. LEXIS 80599, at \*35 (N.C.W.D. May 4, 2022) (“As other courts have found, an “assembly” includes multiple connected parts that form one unit.”) (citations omitted). Not surprisingly, this is wholly consistent with the common definition for the term assembly. (*See, e.g.,* Ex. F, McGraw-Hill Dictionary of Scientific and Technical Terms, p. 139 (“A unit containing the component parts of a mechanism, machine, or similar device.”); Ex. G, Merriam-Webster’s Collegiate Dictionary, p. 74 (“the fitting together of manufactured parts into a complete machine, structure, or unit of a machine”). As such, the term “filter assembly” should be construed as a unit consisting of component parts, including at least one filter, that have been fitted together.

This straightforward construction of “filter assembly” that gives meaning to both words of this claim term is fully supported by the remainder claim language. For example, claim 1, in relevant part, recites: “[a]n imaging device, comprising:” “a filter assembly positioned between the lens and the image sensor, wherein the filter assembly comprises a filter wheel configured to rotate about a rotational axis that is generally parallel to the optical path” and “a reflector carried by the filter assembly.” (Ex. A, Claim 1, 8:61-65). As such, the component parts of the “filter assembly” recited in claim 1 include a filter and further include a filter wheel. In claim 2, the imaging device of claim 1 is further defined to indicate that a filter is carried not just by the filter assembly, but by the filter wheel. (*Id.*, Claim 2, 9:6-7 (“The imaging device of claim 1, further comprising a filter carried by the filter wheel, wherein the filter wheel is configured to move the

filter between filtering and non-filtering positions....”). While Radiant may attempt to argue otherwise, there is no indication in the language of claim 2 that the filter assembly of claim 1 does not include a filter. Rather, claim 2 simply further defines that a filter is carried by a particular component of the filter assembly, namely the filter wheel.

Claim 18, in relevant part, recites: “[a] method of acquiring optical data with an imaging device having a filter assembly positioned along an optical axis between a lens and an imaging device, the method comprising:” “selectively moving the filter assembly to move a reflector carried by the filter assembly...wherein selectively moving the filter assembly comprises rotating a filter wheel about a rotational axis that is generally parallel to the optical axis.” (*Id.*, Claim 18, 10:22-32). In claim 23, the method of claim 18 is further defined to include “selectively moving the filter assembly to align a filter with the optical axis, wherein the filter is aligned with the optical axis when the reflector is not aligned with the optical axis.” (*Id.*, Claim 23, 10:56-57). In this example, the method of claim 23 strongly supports the conclusion that the “filter assembly” of claim 18 contains a filter – otherwise, selectively moving the filter assembly would not result in aligning a filter with the optical axis.

The specification further supports Admesy’s proposed construction. As discussed in more detail in Section II.A, *supra*, the entire purpose of the purported invention of the ’652 Patent is to have “optical components arranged in such a way to combine a spectrometer measurement with a charge-coupled device (CCD) image....” (*Id.*, 2:59-61). Specifically, the specification teaches that

Digital cameras often used a multiple color filter technique to measure the general color distribution of a light source or light reflected from an object. While these measurements are captured relatively quickly, the accuracy of these measurements can be improved by comparing or calibrating the measurements with spectrometer measurements that measure specific regions of the light spectrum very accurately.

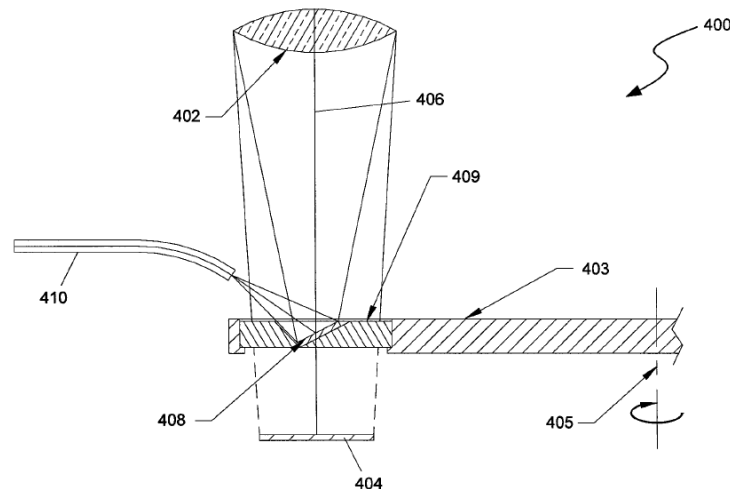
(*Id.*, 3:41-47). However, once again, as discussed in more detail in Section II.A, *supra*, a problem

existed in the prior art, conventional imaging systems that were used to reflect light to a spectrometer because there is “limited space between the image lens and the CCD image plane” and the components in the prior art systems “require a significant portion of the optical path for the placement of the mirrors and/or beam splitters.” (*Id.*, 4:10-18).

The purported invention of the '652 Patent claims to “solve this problem by adding optical components that use the existing space and mechanisms in the camera between the lens and the image plane.” (*Id.*, 4:6-9). Specifically, the specification teaches that, as recited in claim 1, the reflector or mirror may be carried by a filter assembly that is positioned between the lens and the image sensor in order to solve the problem and reflect light to a spectrometer:

The imaging device further includes a filter assembly positioned between the lens and the image sensor, and a reflector or mirror carried by the filter assembly. The filter assembly is configured to move the reflector between first and second positions. In the first position the reflector is at least partially aligned with the optical path and reflects at least a portion of the light to a corresponding light input for a spectrometer.

(*Id.*, 2:67 - 3:7). A more specific embodiment of this configuration is shown in Figure 4 below, in which the imaging device includes a lens assembly 402, an image sensor 404, and a filter wheel 403 carrying one or more filters, as recited in claim 2. (*Id.*, 4:42-46).



**FIG. 4**

To save space, “the mirror 408 is positioned in a mirror support 409 that is mounted on the filter wheel 403 in the space typically reserved for a filter....This configuration saves space because the mirror 408 is carried by an existing mechanism (e.g., a filter wheel) of the camera that moves the mirror in and out of the optical axis or light path 406.” (*Id.*, 4:51-60). Thus, “the mirror 408 is mounted in a volume or area that is typically shared with other filters already used by the camera.” (*Id.*, 4:61-63).

Given the entire purpose and advantage of the purported invention is to add a reflector or mirror to the existing filter assembly in conventional imaging devices or colorimeters to collect light for a spectrometer and combine a spectrometer measurement with a CCD image, this is compelling support for construing the term filter assembly to include a filter. As such, Admesy’s proposed construction not only stays true to the plain language of this claim term, but also stays true to the stated purpose of the purported invention. *See, e.g., Gemalto S.A. v. HTC Corp.*, 754 F.3d 1364, 1369 (Fed. Cir. 2014) (construing claim term by considering stated purpose of invention in specification)

Accordingly, the Court should construe “filter assembly” to mean “a unit consisting of component parts, including at least one filter, that have been fitted together.”

## 2. “filter wheel”

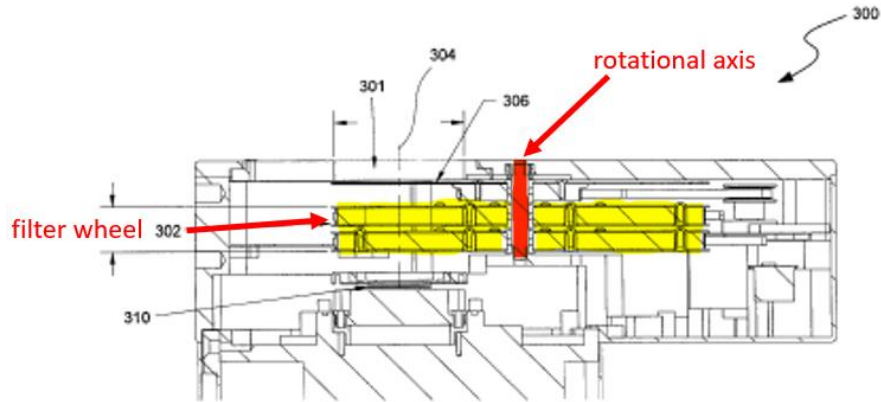
Claim Term	Radiant’s Proposed Construction	Admesy’s Proposed Construction
“filter wheel”	Plain and ordinary meaning, no construction necessary.	“a frame or disk in the form of a circle configured to hold a filter”

While the term “filter assembly” is used to describe a unit of component parts that have been fitted together, the term “filter wheel” is used to further define one specific component of the filter assembly that is “a frame or disk in the form of a circle configured to hold a filter.” While Radiant appears to take issue with a “wheel” being circular or in the form of a circle, the intrinsic

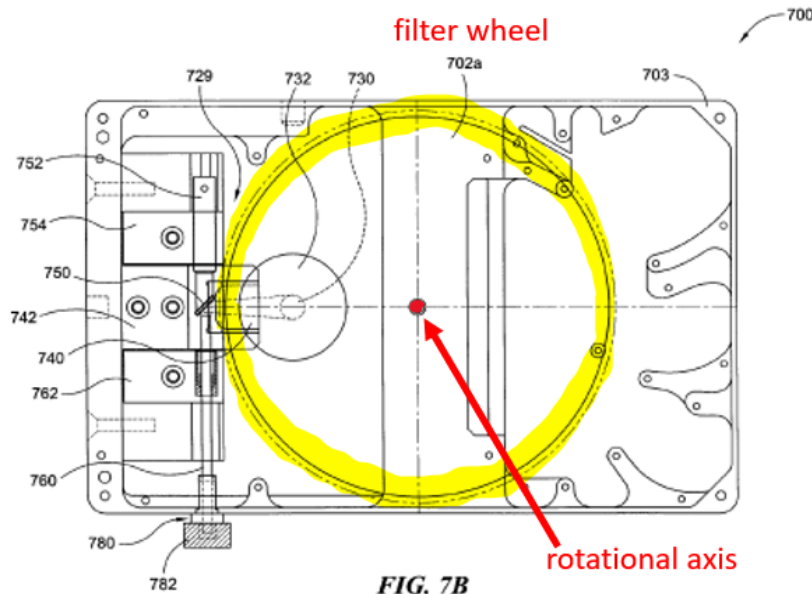
record, including the claims, the specification, and the prosecution history all demonstrate that a “filter wheel” is circular or in the form of a circle.

Turning first to the claims, the claim language consistently states that one specific component part of the filter assembly may be a “filter wheel” that rotates about a rotational axis that is generally parallel to the optical path. For example, claim 1 states that “the filter assembly comprises a filter wheel configured to rotate about a rotational axis that is generally parallel to the optical path.” (Ex. A, 8:62-64). Claim 13 states that the digital camera includes “a filter wheel movably positioned in the body between the lens and the image sensor, wherein the filter wheel is configured to rotate within the body about a rotational axis that is generally parallel with an optical path of the light passing from the lens to the image sensor.” (*Id.*, 9: 55-60). Claim 18 states that “selectively moving the filter assembly comprises rotating a filter wheel about a rotational axis that is generally parallel with the optical axis.” (*Id.*, 10: 29-31). Given the consistent use of the term “filter wheel” – with no reference or any indication that this structure can take any shape other than a wheel – the term filter wheel should be construed as a frame or a disk in the form of a circle. Once again, if Radiant had wanted to seek patent protection for a broader or more general shape, it certainly could have done so. But it chose to describe and claim a “filter wheel” and should be bound by the language of the claims.

The specification consistently depicts the filter wheel as a frame or disk in the form of a circle that rotates about an axis that is generally parallel to the optical path. For example, Figure 3 (reproduced below) depicts a cross-sectional view of a portion of a digital camera that includes filter wheel 302 (annotated in yellow) that is shown as a frame or disk in the form of a circle that rotates about an axis (annotated in red):

**FIG. 3**

Similarly, Figure 7B (reproduced below), depicts a top-down view of a portion of a digital camera that includes a filter wheel 702a (annotated in yellow) that is likewise a frame or disk in the form of a circle that rotates about an axis (annotated in red):

**FIG. 7B**

The specification also consistently describes the filter wheel as being configured to hold multiple filters and rotate about a rotational axis to move the desired filters into the optical path. For example, the specification states that:

The camera 300 includes a lens 301 and one or more filter wheels 302 configured to hold multiple filters and position these filters in an optical path 304 between lens

301 and an image sensor 310 (e.g., CCD). More specifically, each filter wheel 302 has a rotational axis that is generally parallel to the optical path 304. As such, each filter wheel 302 can rotate about its corresponding rotational axis to move the desired filter into the optical path 301.

(Ex. A, 4:21-28; *see also* 4:45-47 (“The system also includes a filter wheel carrying one or more filters. The filters wheel rotates about a rotational axis that is generally parallel to the optical path.”); 6:11-18 (same). Thus, the specification fully supports defining the filter wheel as a frame or disk in the form of a circle that is configured to hold one or more filters. Indeed, putting aside the fact that both the claim language and specification consistently reference the filter wheel as a “wheel,” there is nothing in the intrinsic record that indicates that the filter wheel of the ’652 Patent can take the form of anything other than a wheel or circular structure.

Notably, given the claim amendments that were made during the prosecution of the ’652 Patent, Radiant has disclaimed any argument that the filter wheel of the ’652 Patent can take the form of anything other than a wheel or circular structure that rotates about a rotational axis that is generally parallel to the optical path. *See, e.g., Aylus Networks, Inc. v. Apple, Inc.*, 856 F.3d 1353, 1359 (Fed. Cir. 2017) (quoting *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003) (“Prosecution disclaimer ‘preclud[es] patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution’.... Such disclaimer can occur through amendment or argument.”)).

Specifically, as discussed in more detail in Section II.B, *supra*, in the Office Action dated July 19, 2012, the Examiner rejected, *inter alia*, pending independent claims 1 and 20 in view of Thibault under 35 U.S.C. § 102(b), stating that Thibault disclosed a filter assembly positioned between the lens and image sensor in the form of an optical routing subassembly, which was shaped like a cube or box. (*See* Ex. B, p. 63; Ex. E, Fig. 1). In response, Radiant canceled pending independent claims 1 and 20, and amended and/or rewrote the remaining claims to further define

that the filter assembly must include a “filter wheel configured to rotate about a rotational axis that is generally parallel to the optical path.” (*See id.*, pp. 41-50). In doing so, Radiant stated that, “as discussed during the January 10th telephone conference, the presently applied references and other art of record do not appear to disclose or suggest an imaging device comprising, *inter alia*, ‘a filter assembly positioned between [a] lens and [an] image sensor’ with ‘a filter wheel configured to rotate about a rotational axis that is generally parallel to [an] optical path[.]’” (*Id.*, p. 50). As such, Radiant should be precluded from arguing that the filter wheel of the ’652 Patent can take the form of anything other than a wheel or circular structure that rotates about a rotational axis that is generally parallel to the optical path.

As a final point, Admesy’s proposed construction of this term is also consistent with other prior art that was cited by the Examiner, including the aforementioned prior Radiant ’060 Patent, that depicts a filter assembly comprising a number of component parts including filter wheels that are frames or disks in the form of a circle that rotate about a rotational axis that is generally parallel to the optical path. (*See* Ex. C, Fig. 1A; *see also* Ex. D, Figs. 29A & 29B (likewise depicting filter wheels that take the form of frames or disks in the form of a circle that rotate about a rotational axis that is generally parallel to the optical path)). Admesy’s proposed construction is also consistent with the common definition of the term “wheel”: “a circular frame with a hub at the center for attachment to an axle, about which it may revolve and bear a load.” (Ex. F, p. 2164).

Accordingly, the Court should construe the term “filter wheel” to mean “a frame or disk in the form of a circle configured to hold a filter.”

## **V. CONCLUSION**

For the foregoing reasons, Admesy respectfully requests that the Court adopt its proposed constructions for the terms “filter assembly” and “filter wheel.”



This 20th day of January 2023.

*/s/ Scott P. Amy*

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**CERTIFICATE OF SERVICE**

I hereby certify that on January 20, 2023, the foregoing DEFENDANT ADMESY B.V.'S  
OPENING CLAIM CONSTRUCTION BRIEF was filed using the Court's CM/ECF system,  
which will automatically send electronic notice of such filing to all attorneys of record.

/s/ Scott P. Amy

Scott P. Amy

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